

## EAST Search History

| Ref # | Hits | Search Query   | DBs                          | Default Operator | Plurals | Time Stamp          |
|-------|------|--|------------------------------|------------------|---------|---------------------|
| L1    | 2103 | (ru! ruthenium) with precursor   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:03 |
| L2    | 1    | (ru! ruthenium) with precursor with ("ruf. sub.6")   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:04 |
| L3    | 2    | (ru! ruthenium) with precursor with ("RuCO. sub.5")  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:05 |
| L4    | 2    | (ru! ruthenium) with precursor with ("Ru(CO). sub.5")  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:05 |
| L5    | 2    | (ru! ruthenium) with precursor with ("Ru. sub.3" adj "(CO). sub.12")                                     | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:05 |
| L6    | 6    | (ru! ruthenium) with ("Ru.sub.3" adj "(CO). sub.12")   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:06 |
| L7    | 2    | (ru! ruthenium) with ("ruf.sub.6")   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:06 |
| L8    | 2    | (ru! ruthenium) with ("Ru(CO).sub.5")  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:07 |
| L11   | 21   | (ru! ruthenium) with precursor with fluoride   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:08 |
| L12   | 40   | ruthenium adj fluoride   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:10 |
| L13   | 238  | "Triruthenium dodecacarbonyl"  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:13 |
| L14   | 60   | "Triruthenium dodecacarbonyl" with precursor   | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:13 |
| L15   | 39   | "Triruthenium dodecacarbonyl" with precursor and (laser (ion adj beam) (e adj beam) (electron adj beam)) | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2008/04/24<br>11:15 |

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| L16 | 36      | ("4539278"   "4604292"<br>  "5199055"   "5310603"<br>  "5399448"   "5572564"<br>  "5698113"  <br>"5958629").PN. OR<br>("6013399").URPN. | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>11:28 |
| L17 | 17      | 16 and (defect pinhole)   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>11:29 |
| L18 | 1594    | precursor with ("sih.<br>sub.4" ("si.sub.2" adj "h.<br>sub.6"))   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:50 |
| L19 | 0       | deposit\$3 with (FIB (ion<br>adj beam)) with<br>precursor with ("sih.<br>sub.4" ("si.sub.2" adj "h.<br>sub.6"))                         | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:50 |
| L20 | 0       | deposit\$3 with (FIB (ion<br>adj beam)) same<br>precursor with ("sih.<br>sub.4" ("si.sub.2" adj "h.<br>sub.6"))                         | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:50 |
| L21 | 1159298 | deposit\$3 precursor with<br>("sih.sub.4" ("si.sub.2"<br>adj "h.sub.6"))  | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:51 |
| L22 | 692     | deposit\$3 with precursor<br>with ("sih.sub.4" ("si.<br>sub.2" adj "h.sub.6"))  | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:51 |
| L23 | 39      | (silicon adj dioxide) with<br>deposit\$3 with precursor<br>with ("sih.sub.4" ("si.<br>sub.2" adj "h.sub.6"))                            | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>12:52 |
| L24 | 2513    | ((e! electron) adj beam)<br>with (optical adj system)   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>13:16 |
| L25 | 1       | ((e! electron) adj beam)<br>with (optical adj system)<br>and (growth adj rate)<br>same voltage  | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>13:17 |
| L26 | 13      | ((e! electron) adj beam)<br>with (optical adj system)<br>and (growth) same<br>voltage   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>13:17 |
| L27 | 35      | ((e! electron ion) adj<br>beam) same (growth adj<br>rate) same voltage  | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>13:22 |
| L28 | 7189    | ((e! electron ion) adj<br>beam) same voltage<br>with (increas\$3 adjust<br>\$3)   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2008/04/24<br>13:29 |

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| L29 | 646  | ((e! electron) adj beam) with (optical adj system) and voltage with (increas\$3 adjust\$3)   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 13:30 |
| L30 | 5    | ((e! electron) adj beam) with (optical adj system) and voltage with (increas\$3 adjust\$3) and voltage with (spatial adj resolution) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 14:05 |
| L31 | 40   | ((e! electron) adj beam) (ion adj beam)) and voltage with (increas\$3 adjust\$3) and voltage with (spatial adj resolution)           | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 14:07 |
| L32 | 4    | ("6476913"   "6480279"   "6792359").PN. OR ("6870169").URPN.   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 14:30 |
| L33 | 8    | ((e! electron ion) adj beam) same voltage with (increas\$3 adjust\$3) with growth  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 14:31 |
| L34 | 29   | voltage with (increas\$3 adjust\$3) with growth adj rate   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 14:34 |
| L35 | 3561 | voltage with (increas\$3 adjust\$3) with deposit\$3  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:08 |
| L36 | 543  | voltage with (increas\$3 adjust\$3) with deposit\$3 with (growth rate)   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:19 |
| L37 | 25   | voltage with (increas\$3 adjust\$3) with deposit\$3 with (growth rate) with beam   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:20 |
| L38 | 6    | voltage with (increas\$3 adjust\$3) with beam with (spatial adj resolution)  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:28 |
| L39 | 1    | voltage with deposit\$3 with beam with (spatial adj resolution)  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:50 |
| L40 | 4    | voltage with deposit\$3 with (spatial adj resolution)  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:51 |
| L41 | 267  | deposit\$3 with (spatial adj resolution)   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/24 16:57 |

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| L42 | 3    | deposit\$3 with (spatial adj resolution) with volt \$3   | US-PGPUB; USPAT; USOCR | OR | ON  | 2008/04/24 16:57 |
| L43 | 0    | deposit\$3 with (resolution) with volt\$3 with ((e! electron ion) adj beam)                      | US-PGPUB; USPAT; USOCR | OR | ON  | 2008/04/24 16:58 |
| S1  | 9598 | capping adj layer  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:17 |
| S2  | 298  | S1 same defect   | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:18 |
| S3  | 1154 | S1 same (defect hole)  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:18 |
| S4  | 1178 | S1 same (defect hole pinhole)  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:18 |
| S5  | 66   | S4 and ((electron adj beam) laser) same gas  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:18 |
| S6  | 1230 | capping adj layer with mask  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:22 |
| S7  | 258  | EUV same mask same defect  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:27 |
| S8  | 650  | S1 with (defect hole pinhole)  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:49 |
| S9  | 132  | S1 with (defect pinhole)   | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 15:49 |
| S10 | 1    | ("5429730").PN.  | US-PGPUB; USPAT        | OR | OFF | 2008/04/16 15:52 |
| S11 | 24   | ("4851097"   "4868068"   "4874460"   "4936968"   "4952421"   "5104684").PN. OR ("5429730").URPN. | US-PGPUB; USPAT; USOCR | OR | ON  | 2008/04/16 15:52 |
| S12 | 2    | S11 and (EUV S1 CMOS)  | US-PGPUB; USPAT; USOCR | OR | ON  | 2008/04/16 15:55 |
| S13 | 16   | S1 with (pinhole)  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 16:15 |
| S14 | 1    | S1 with (pinhole) same nitrogen  | US-PGPUB; USPAT        | OR | ON  | 2008/04/16 16:25 |
| S15 | 1    | ("5429730").PN.  | US-PGPUB; USPAT        | OR | OFF | 2008/04/17 09:47 |
| S16 | 9616 | capping adj layer  | US-PGPUB; USPAT        | OR | ON  | 2008/04/21 13:28 |
| S17 | 300  | S16 same defect  | US-PGPUB; USPAT        | OR | ON  | 2008/04/21 13:28 |
| S18 | 7    | S17 same EUV   | US-PGPUB; USPAT        | OR | ON  | 2008/04/21 13:28 |

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| S19 | 11   | S16 with defect and (laser FIB (focused adj ion)) same (correct\$3 fill \$3 fix\$3)                  | US-PGPUB; USPAT        | OR | ON | 2008/04/21 14:01 |
| S20 | 24   | ("4851097"   "4868068"   "4874460"   "4936968"   "4952421"   "5104684").PN. OR ("5429730").URPN.     | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:21 |
| S21 | 1    | S20 and (ru! ruthenium)  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:21 |
| S22 | 922  | (ru! ruthenium) same (defect pinhole)  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:23 |
| S23 | 20   | (ru! ruthenium) same (defect pinhole) same correct   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:23 |
| S24 | 1    | (ru! ruthenium) same (defect pinhole) same (capping adj layer)                                       | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:23 |
| S25 | 628  | (ru! ruthenium) same (capping adj layer)   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:24 |
| S26 | 357  | (ru! ruthenium) with (capping adj layer)   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:24 |
| S27 | 17   | (ru! ruthenium) with (capping adj layer) and (capping adj layer) same (defect pinhole)               | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:24 |
| S28 | 2    | (ru! ruthenium) with (laser FIB! (focused adj ion)) same (defect pinhole)                            | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:29 |
| S29 | 1062 | (C! carbon) with (laser FIB! (focused adj ion)) same (defect pinhole)                                | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:32 |
| S30 | 7    | (C! carbon) with (laser FIB! (focused adj ion)) same ((cap capping) adj layer) same (defect pinhole) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:32 |
| S31 | 318  | (carbon) with (laser FIB! (focused adj ion)) same (defect pinhole)                                   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:33 |
| S32 | 142  | (carbon) with (laser FIB! (focused adj ion)) with (defect pinhole)                                   | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:33 |

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| S33 | 1   | (carbon) with (laser FIB! (focused adj ion)) with (defect pinhole) same methane                | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:34 |
| S34 | 142 | (carbon) with (laser FIB! (focused adj ion)) with (defect pinhole)                             | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:34 |
| S35 | 12  | (carbon) with (laser FIB! (focused adj ion)) with (defect pinhole) and EUV                     | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/22 16:42 |
| S36 | 2   | ((cap capping) adj layer) with (laser FIB! (focused adj ion)) with (defect pinhole) and EUV    | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 11:30 |
| S37 | 13  | ((cap capping) adj layer) with (laser FIB! (focused adj ion)) with (defect pinhole)            | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 11:30 |
| S38 | 52  | (laser FIB! (focused adj ion)) with (defect pinhole) same EUV                                  | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 11:31 |
| S39 | 37  | ((cap capping) adj layer) with (defect pinhole) same (laser FIB! (focused adj ion))            | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 11:49 |
| S40 | 0   | ((cap capping) adj layer) with ((multilayer (multi adj layer)) adj mask)                       | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 15:00 |
| S41 | 3   | ((cap capping) adj layer) same ((multilayer (multi adj layer)) adj mask)                       | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 15:01 |
| S42 | 102 | ((cap capping) adj layer) same ((multilayer (multi adj layer))) same EUV                       | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 15:01 |
| S43 | 10  | ((cap capping) adj layer) same ((multilayer (multi adj layer))) same EUV same (defect pinhole) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/04/23 15:01 |

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